

REQUEST FOR RECONSIDERATION IN RESPONSE TO OFFICE ACTION DATED DECEMBER 4, 2008
APPLICATION NO. 10/534,359
ATTORNEY DOCKET NO. 0470.0008C (MSK0009-US)

REMARKS

Claims 20-36 remain pending in this application and are believed to be in condition for allowance for the reasons set forth below.

In the Office Action,

- Claims 20, 23-24, 28, 31-32 and 36 were rejected under 35 U.S.C. §102(b) as being anticipated by non-patent literature reference (NPL) “An Efficient Adaptive Circular Viterbi Algorithm for Decoding Generalized Tailbiting Convolutional Codes”, Richard V. Cox and Carl-Erik W. Sundberg, IEEE Transactions on Vehicular Technology, 1994 (hereinafter, “Cox and Sundberg”);
- Claims 25-27 and 33-35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cox and Sundberg in view of Ramesh et al. (US 6,917,629, “Ramesh”); and
- Claims 21-22 and 29-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cox and Sundberg in view of Kuwazoe (US 2002/0051505).

These grounds of rejection are respectfully traversed.

It is respectfully submitted that the disclosure of the Cox and Sundberg reference is very different from the requirements of the pending claims. Specifically, claim 20, for example, requires identifying a “*format in a plurality of candidate formats*.”

The problem addressed by the Cox and Sundberg reference is purely that of decoding a received signal which has been transmitted with a known coding rule and format. In the coding scheme employed in the Cox and Sundberg reference (i.e., tailbiting convolutional coding), the starting and end state in the associated trellis are unknown and hence need to be determined at the receiver (which is the purpose of the techniques presented in this document).

However, the starting and ending states are purely determined by the contents of the message that has been transmitted, not by the format of the message.

Accordingly, there is a fundamental difference between the Cox and Sundberg reference and the claimed invention, in that the claimed invention comprises retrieving the format of the message (format meaning, for example, the code block size as shown on Figure 1 of the present

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application). Identifying the contents of the message is a completely different problem to that of identifying the format of the message and hence the Cox and Sundberg reference cannot even be considered relevant to the present invention.

More specifically, it appears that the Examiner is equating **candidate formats** in the present application with different **starting and ending trellis states** in the Cox and Sundberg reference.

As indicated above, these two elements cannot be interchanged (since one of them relates to the format of the message being transmitted whereas the other one relates to the contents of the message).

This non-equivalence is evident from claim 20 itself:

'...for a given candidate format, comprises: using a Viterbi algorithm to determine trellis metrics for a point in said signal that would be an end point of a candidate block according to the given candidate format'.

It can be seen from this portion of claim 20 that different candidate formats correspond to different code block end points.

The concept of a different code block end point is not presented in the Cox and Sundberg reference. The Cox and Sundberg reference describes (page 60) techniques where multiple code blocks are concatenated. However the code block end points are always at the same location.

The following two additional points help to even further differentiate the presently claimed invention from the disclosure of the Cox and Sundberg reference:

(1) There is nothing in the Cox and Sundberg reference that addresses the following section of pending claim 20: "and performing a check using said decoded part to determine whether the candidate block satisfies an error protection scheme of the given candidate format." The Examiner makes reference to p. 60 – section C. As best understood, Applicant believes that the Examiner is focusing on the following sentence of the Cox and Sundberg reference: "If a Cyclic Redundancy Check (CRC) block code is used, list decoding can be used to select between the outputs." This covers the case with the Viterbi algorithm (List-Viterbi) produces a number (>1) of possible decoded sequences and the CRC is used to select the correct

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one. Such an approach requires multiple checks to be performed with the CRC code (one for each sequence returned by the list Viterbi algorithm until successful decoding). This is different from the claimed approach where a single decoding is performed for each candidate format (“performing a check using said ...”). It is important to note that it is improper to equate the different results returned by the List Viterbi algorithm with the different candidate formats in the claimed invention, where, as before one of them refers to different versions of the contents of the message whereas the other corresponds to different message formats.

(2) Claim 20 further recites “using a Viterbi algorithm to determine trellis metrics for a point in said signaldetermining from said metrics the likelihood of occupation at said point of an end state of an encoding scheme.” This clearly indicates that the decision on the format of the transmitted message is made based on the metrics located at a single point in the received message. This is quite different from what is presented in the Cox and Sundberg reference, p. 59 / section B, where the decision on the contents of the transmitted signal is based on the comparison of the metrics at both the starting point and the end point in the trellis. The Cox and Sundberg reference requires the comparison of metrics at two different points in the code trellis whereas the claimed invention only uses the metrics in a single point.

For at least the foregoing reasons, the cited reference fails to disclose or to suggest the features recited in each of the independent claims pending in this application. As such, Applicant respectfully urges that the asserted §102(b) and §103(a) rejections be reconsidered and withdrawn.

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In view of the foregoing all of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone Applicant's undersigned representative at the number listed below.

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